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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,418

06/24/2005

Riki Okamoto

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EXAMINER

YEE, DEBORAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,418	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> Deborah Yee	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 8, 2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over European patent 0974677 or Japanese patent 11-323480 for the reasons set forth in the previous office action dated April 7, 2008.

### ***Response to Arguments***

4. Applicant's arguments filed September 8, 2008 have been fully considered but they are not persuasive.

### ***EP 0974677 ("the '677 patent")***

5. It was argued that '677 patent discloses steel containing Ti at less than 0.3% to promote a growth of ferrite grains as an optional element. On the other hand, the

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present invention steel contains Ti: 0.003-0.02% as an indispensable element to cause the precipitation of fine TiC and enable higher strength. In addition, Applicant argued that specific examples of '677 patent contain C content that mostly exceed 0.08% (the upper limit of the C content of the present invention).

6. In response to argument, it is the Examiner's position regardless of whether Ti is optional or mandatory, '677 patent still teaches it would be obvious to add Ti up to less than 0.3% which encompasses and therefore teaches Applicant's Ti range of 0.003-0.02%. Also '677 patent in paragraph [0030] incorporates Ti for the same reason as present invention which is to promote higher strength by forming Ti carbides, nitrides or carbonitrides.

7. With regard to carbon content, even though specific prior art examples do not meet the claimed C content, it would be obvious to use lower amounts because '677 patent in paragraph [0027] teaches a broad C range of 0.03 to 0.3%. Moreover prior art C content of 0.03 to 0.3% overlaps and therefore teaches a portion of Applicant's claimed C range of 0.02 to 0.08%. To distinguish claim over prior art, Applicant will need to demonstrate (e.g. by comparative test data) that the more narrowly claimed C range is somehow critical and productive of new and unexpected results.

***Japanese patent no. 11-323480 ("the '480 patent")***

8. Applicant argued that the steel of '480 patent does not contain Ti whereas present invention requires 0.003-0.02%Ti. In response to argument, the '480 patent in paragraph [0006] teaches Ti is commonly added to steel for raising the intensity (equivalent to strength) but when recycling, this element is not easily remove from steel

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and therefore is not included. It is the Examiner's position that if recycling was not factor, then adding Ti to raise strength, as Applicant has done, would be an obvious modification well within the skill of the artisan and productive of no new and unexpected results.

9. It was argued that specific prior art steel in table 1 is made by hot rolling with a finishing temperature of below Ar3 temperature. In contrast, present invention makes steel by hot rolling with a finishing temperature above Ar3 ; and if temperature is below Ar3 temperature, then elongation remarkably deteriorates, as discussed in instant specification, page 12, lines 5-10. In response to argument, the English abstract of '480 patent teaches a hot rolling temperature between Ar3+50C and Ar1 which overlaps and suggest present invention range of above Ar3. Since Applicant has not demonstrated criticality of claimed temperature range with convincing evidence (e.g. by comparative test data), then claims would not patentably distinguish over prior art. Moreover, Applicant stated elongation deteriorates with lower hot rolling temperature but such property is not recited and therefore not a factor to consider in the product claim.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00 am-2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah Yee/  
Primary Examiner  
Art Unit 1793

/DY/